

### REMARKS

At the outset, the undersigned wishes to thank Examiner Timothy Harbeck and his supervisor Examiner Hyung Souh for the interview conducted with the undersigned on September 12, 2006.

Discussed were the rejections under 35 U.S.C. 112, first and second paragraphs in particular as they pertain to the term "odd lot exposure limit" and the prior art rejections over Samukawa and Serkin. In view of Applicant's explanation of "odd lot exposure limit," and how that is supported in the application, the examiner agreed to reconsider his position regarding the 112, first and second paragraph rejections and the prior art rejections if Applicant made the discussion formally of record by argument in the next action.

The undersigned asked whether either examiner had any other outstanding issues, in order to better prepare the application for allowance or place it in better form for appeal. Specifically, the undersigned asked whether there were any 101 statutory subject matter issues. Both examiners indicated that claims 1-18; 19-25 and 26-30 could be subject to rejection based on lack of statutory subject matter.

After discussion it was agreed that claims 19-25 and 26-30 directed to a system and computer readable medium respectively claimed statutory subject matter. However, both examiners contended that claims 1-18 likely were not statutory because the method as claimed did not produce a useful, concrete and tangible result. The undersigned respectfully disagreed indicating that routing was the useful concrete and tangible result required for the claim. In view of the foregoing Applicant responds to the office action, as follows:

Applicant has amended claim 1 to include features of executing or delivering, claim 19 to delete unnecessary limitations and has made clarifying amendments to claims 20, 21 and 23. Applicant has also made clarifying amendments to claims 26 and 27.

The examiner rejected Claims 1-26 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The examiner contended that: "The specification fails to properly define what an "odd-exposure limit" is."

The examiner also rejected Claims 1-26 under 35 U.S.C. 112, second paragraph, as being indefinite "for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The specification fails to properly define what an "odd-exposure limit" is."

In Response to Applicant's arguments, the examiner stated:

The rejection based on the 35 U.S.C. 112, first and second paragraph, however has been maintained. The applicant has argued that the term "odd lot exposure limit" is apparent on its face and that a person of ordinary skill in the art would understand that an odd lot exposure limit is a size parameter maintained for market makers, that can be set by the market makers and that specifies amount of a security that a market maker would desire exposure to odd lot orders for each security that it makes a market in (Remarks, page 11). However the specification describes that this exposure limit can be from 0 to possibly 999,999 shares. It is unclear to the examiner how a particular market maker can be "exposed" to more than 99 odd lot shares of any particular security. For instance if a market maker is "exposed" to 117 shares of a particular security, this represents one round lot of 100 and an odd lot of 17. The examiner does not believe a person of ordinary skill would consider this market maker exposed to an odd lot of 117. This process is iterative at each 100 shares an aggregate round lot is achieved and therefore exposure to 999,999 odd lot shares is contrary to normally accepted definitions of odd lots, including one provided by the applicant ("odd lot orders or orders less than one round lot (e.g., 100 shares for equities)" (page 14). For this reason the examiner believes that a person of ordinary skill in the art would not understand the metes and bounds of the claims, particularly an "odd lot exposure limit."

Appellant contends that the meaning "odd lot exposure limit" is apparent on its face. Namely, odd lot exposure limit is a limit of the number of odd lots, e.g., shares that a participant would be willing trade. While exactly how the odd lot exposure limit is expressed (e.g., in shares or number of lots) is an immaterial detail of implementation, Applicant describes one example that: "A market maker may, on a security-by-security basis, set an odd-lot exposure limit from 0 to a predefined number of shares, e.g., 999,999 shares." [Applicant's specification page 17, lines 18-20]. As explained during the interview and would be apparent to one of skill in this art, the exposure limit set from "0 to 999,999 shares" is the number of shares that the market maker chooses to execute not that an odd lot can be from "0 to possibly 999,999 shares, as the examiner thought. As the examiner noted, the examiner's interpretation would be inconsistent with Applicant's specification and the meaning that an "odd lot" has in the art.

As explained in the interview, without characterizing the scope of Applicant's claims the odd lot exposure limit is, e.g., a voluntary limit set by a market participant, e.g., a market maker

that indicates how many, e.g., odd lot shares the market participant would like exposure to and or execute against. For example, as also explained, if an order for 97 shares came in that would be considered an odd lot and the 97 shares would be decremented against a particular market makers odd lot exposure limit (a number equal to or greater than 97 up to 999,999). Subsequently, if another order came in for e.g., 137 shares, 37 shares would be an odd lot portion that would be executed as an odd lot and 37 shares would be decremented against that market makers odd lot exposure limit. The 100 shares would be a round lot and executed normally. Of course, in another implementation the 137 shares could be treated as an odd lot exposure to decrement against the odd lot exposure limit.

The examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). Applicant contends that the examiner has not provided a reasonable explanation as to why this claim element is not adequately enabled by the disclosure. Applicant had previously noted support in the specification disclosure, on page 15, lines 4-19, where applicant's specification states:

The odd-lot execution manager 26g will not decrease the market maker's displayed quote size, rather it will decrease the market maker's odd-lot exposure limit.

The odd-lot execution manager 26g accesses the "odd-lot exposure limit" parameter that is maintained for market makers. The odd-lot execution manager 26g also accesses and maintains a market maker interval delay between odd-lot executions against the same market maker. Odd-lots are processed in a round-robin fashion against a market maker even if it is not at the inside, odd-lots are processed only against those market makers who have an available odd-lot exposure limit.

Additional passages in Applicant's specification further support the odd lot exposure limit and how it works. For example, Applicant describes at page 2, line 30 to page 3, line 8:

In general, a market maker can and will maintain different exposure limits for each security that it makes a market in. The exposure limit can be set by the market maker.

The odd-lot execution manager does not execute an odd-lot order against a market maker unless the market maker had a sufficient exposure limit to fill the odd-lot order. Despite the potential for odd-lot processing in a security to suspend if no market maker establishes an exposure limit, it is likely that competitive forces to capture and service this segment of the market will yield swift and robust processing of odd-lot transactions.

Executions occur when the odd-lot order becomes marketable, i.e., when the best price in the system moves to the price of the odd-lot limit order. The odd-lot execution manager 26g will not decrease the market maker's displayed quote size, rather it will decrease the market maker's odd-lot exposure limit.

Additionally, the discussion from page 14 to 19 of odd lot processing clearly explains how the odd lot exposure parameter works with the disclosed processing.

Clearly, one of ordinary skill in this art would understand that an "odd-lot exposure limit" is a size parameter maintained for market participants, that can be set by the market participants and that specifies the amount of a security that a quoting market participant would desire exposure to, e.g., to execute or fill for a specific number of odd lot shares for each security.

At least these teachings, as well as the remainder of the specification, adequately describes and enables this feature of the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented and which would be understood by those of ordinary skill in this art. According, the examiner must take this term as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, since the examiner has failed to show any reason to doubt the objective truth of the statements relied on for enabling support. See MPEP. 2164.04.

The examiner is equally in error in regards to the claims being improper under 35 U.S.C. 112, second paragraph for similar reasons.

It is also well settled that it is not necessary for the claims to recite every element needed for practical utilization of the claimed subject matter in order for a claim to be proper under 35 U.S.C. §112, second paragraph, *Bendix Corp. v. United States*, 600 F.2d 1364, 1369, 204 U.S.P.Q. 617, 621 (Court of Claims, 1979). It is not the role of the claims to enable one skilled in the art to reproduce the invention, but rather to define the legal metes and bounds of the

invention. *In re Geoffe*, 526 F.2d 1393, 1397, 188 U.S.P.Q. 131, (CCPA, 1975). Here the examiner must show that one of ordinary skill in the art would not understand the metes and bounds of the claims and in particular would not understand what Applicant meant by "an odd lot exposure limit." However, as argued above, this feature is clearly understandable to one of ordinary skill in this art, especially given the context of Applicant's specification.

Accordingly, Claims 1-26 are proper under 35 U.S.C. 112, first and second paragraphs and these grounds of rejection are improper and should be withdrawn.

In order to advance prosecution, and at the suggestion of the both examiners, Applicant has amended claim 1 to call for: "executing the order for quoting market participants that accept executions of orders or delivering the order for quoting market participants that accept deliveries of orders for execution." This provides claim 1 and its dependent claims with a useful, concrete and tangible result. Thus, a potential rejection of claim 1 under 35 U.S.C. 101, as directed to non-statutory subject matter would be improper.

The examiner rejected Claims 1-30 under 35 U.S.C. 103(a) as being unpatentable over Samukawa et al (US 2002/0023043 A1) in view of Serkin et al (US 2002/0161687 A1).

#### Claim 1

With respect to claim 1, the examiner contends that:

Re Claim 1: Samukawa discloses a system and method for supporting odd lot trading comprising the steps of: • Determining in a computer system whether an odd lot exposure limit has been exceeded for a quoting market participant (Page 1, paragraph 0005; Figure 2 Ref S9; "judging whether or not the number of total stocks of the odd lot selling orders or the number of total stocks of the odd lot buying orders received at the receiving step is over a threshold value that is less than the round lot stock number and is determined by a predetermined rule.")

Samukawa does not explicitly disclose routing a received market odd-lot order for execution or delivery to the quoting market participant whose odd-lot exposure limit has not been exceeded and which is sufficient to satisfy execution of the order. Serkin discloses an odd lot execution manager that routes odd lot orders for orders for execution to a market maker that is first in the rotation for execution of such orders (paragraph 0073). While Serkin does not explicitly disclose that the odd-lot exposure limit has not been exceeded, this is inherent in the fact that the market maker is eligible (i.e. in the rotation for such orders) to execute the offer. It would have been obvious to a person of ordinary skill in the art at the time of invention to include the teachings of Serkin to the disclosure of Samukawa so odd lot orders can be executed automatically which creates a much more efficient market for these types of orders. Any delay in executing these orders, such as

waiting for an odd lot aggregation may result in an increased risk of a fluctuation in the price of the security.

Claim 1, as amended, is distinct over Samukawa, taken separately or in combination with Serkin since no combination of the cited references describes or suggests determining ... whether an odd-lot exposure limit has been exceeded for a quoting market participant and routing a received odd-lot order ... to the quoting market participant whose odd-lot exposure limit has not been exceeded ... .

The examiner argues that Samukawa teaches the odd-lot exposure limit at paragraph 0005, Figure 2 Ref S9. Applicant respectfully submits that Samukawa neither describes nor suggests this feature whether at that passage or elsewhere. Samukawa does not describe or suggest the recited odd-lot exposure limit. Accordingly, inherently Samukawa fails to describe or suggest ... routing a received odd-lot order ... to the quoting market participant whose odd-lot exposure limit has not been exceeded .... In contrast, Samukawa teaches:

[0005] A method of the first aspect of the present invention for supporting a trading of an odd lot that is less than a round lot stock number determined in every stock company comprises the steps of: receiving from a customer, an odd lot selling order or an odd lot buying order for a particular stock company and storing information of the order into a storage device (for example, step S5 in FIG. 2, or step S35 in FIG. 10); judging whether or not the number of total stocks of the odd lot selling orders or the number of total stocks of the odd lot buying orders received at the receiving step is over a threshold value that is less than the round lot stock number and is determined by a predetermined rule (for example, step S9 in FIG. 2 or step S39 in FIG. 10); and if it is judged at the judging step that the number of total stocks of the odd lot selling orders or the number of total stocks of the odd lot buying orders is over the threshold, generating a selling order of the round lot stock number defined for the particular stock company for the odd lot selling orders or a buying order of the round lot stock number defined for the particular stock company for the odd lot buying orders and outputting information of the order (for example, step S11 in FIG. 2, or step S41 in FIG. 10).

Samukawa teaches to total the number of odd-lot stocks and generate a round lot order:

[0005] ... judging whether or not the number of total stocks of the odd lot selling orders or the number of total stocks of the odd lot buying orders ... is over a threshold value that is less than the round lot stock number and is determined by a predetermined rule (for example, step S9 in FIG. 2 or step S39 in FIG. 10); and if ... the number of total stocks of the odd lot ... is over the threshold, generating a selling order of the round lot stock number defined for the particular stock company for the odd lot selling orders or a buying order of the round lot stock number defined for the particular stock."

In contrast, claim 1 is directed to a mechanism to insure fairness to market makers in handling odd lot orders by the provision of the odd-lot exposure limit and routing of received odd-lot orders based on the odd-lot exposure limit. No such feature is disclosed in Samukawa and Serkin does not cure this deficiency in Samukawa. Therefore, Samukawa whether taken separately or in combination with Serkin, neither describes nor suggests claim 1.

Claim 2

In rejection of claim 2, the examiner contends that:

*Re Claim 2: Samukawa in view of Serkin discloses the claimed method supra and Serkin further discloses the step of determining whether an interval delay between executions of odd-lots by a specified quoting market participant has been exceeded before routing a subsequently received odd-lot order for execution to the specified quoting market participant (paragraph 0054)*

Samukawa in view of Serkin neither describes nor suggest determining whether an interval delay between executions of odd lots by a specified quoting market participant has been exceeded before routing a subsequently received odd-lot order for execution to the specified quoting market participant. The examiner does not cite any passage from Samukawa and in view of the previous reliance on page 3, paragraphs 0032-0034 and the timing t1 to support this feature (see prior action). Applicant contends that the examiner now concedes that Samukawa does not teach this feature.

Serkin also does not describe this feature. The examiner relies on paragraph [0054] from Serkin.

*[0054] Referring to FIG. 5B, if the order is not filled 88, the order execution/routing manager 26d will move 90 to the next price level, after a predefined delay, e.g., a 5 second interval delay 87 before attempting to execute an order at the new price level. The price-level interval delay will give market participants time to adjust their quotes and trading interests before the market moves precipitously through multiple price levels, which may occur when there is news, rumors, or significant market events. Thus, the price-level interval delay is a modest and reasonable attempt to limit volatility.*

Neither the passages from Samukawa previously relied on by the examiner nor [0054] from Serkin deal with the interval delay, as claimed in claim 2. Rather, these teachings deal with timing related to stock updates, which is unrelated to the feature claimed in claim 2 (Paragraph

[0032] from Samukawa) or a price level delay used in the market for trading regular round lots before moving to the next price level (Serkin).

Clearly these teachings are irrelevant to the claimed feature of ... an interval delay between executions of odd-lots ... before routing a subsequently received odd-lot order ...

#### Claim 7

Claim 7 is allowable for analogous reasons since as was shown by Applicant, Samukawa taken with Serkin fail to disclose or suggest "the odd-lot exposure limit."

#### Claim 8

With respect to claim 8, the examiner contends that:

Re Claim 8: Samukawa in view of Serkin discloses the claimed method supra and Serkin further discloses wherein routing a received odd-lot order occurs in an oddlot execution manager that is a separate mechanism for processing and executing orders and distinct from a mechanism for processing normal units of trading (paragraph 0073).

Claim 8 is allowable over Samukawa with Serkin. While Serkin discloses a separate odd-lot execution manager, the examiner has not furnished any basis to combine the teachings of Serkin with Samukawa. Returning to the examiner's argument for claim 1, the examiner contends that:

It would have been obvious to a person of ordinary skill in the art at the time of invention to include the teachings of Serkin to the disclosure of Samukawa so odd lot orders can be executed automatically which creates a much more efficient market for these types of orders. Any delay in executing these orders, such as waiting for an odd lot aggregation may result in an increased risk of a fluctuation in the price of the security.

Modifying Samukawa with this feature taught by Serkin would destroy the intent, purpose and principle of operation of Samukawa since the whole point of Samukawa is to aggregate odd lots. Therefore, the examiner's proffered motivation serves to vitiate the desirability of the combination, and indeed provides a motivation not to combine the teachings of the references.

#### Claim 9



Claim 9 recites "establishing an odd-lot order routing parameter of a predetermined number of orders per firm." As for claim 9, the examiner states that:

*Re Claim 9: Samukawa in view of Serkin discloses the claimed method supra but does not explicitly disclose the step further comprising establishing an odd-lot order routing parameter of a predetermined number of orders per firm. However Official Notice is taken that this step is old and well known in the art. It would have been obvious to a person of ordinary skill in the art to include this step in the disclosure of Samukawa in view of Serkin in order to promote fair competition among market participants. If one firm is allowed to enter a very large order at a particular time, that order would take priority over any other order and would take a long time to exhaust. This prevents other participants from achieving an efficient match for their order if they are on the same side as the first firm.*

Applicant disagrees and specifically challenges the examiner to produce documentary evidence that the claimed order routing parameter is old and well known in the art and such knowledge would suggest its use in the feature of claim 9.

Applicant notes that the examiner acknowledges that neither Samukawa's "Order insufficiency m" nor the teachings of Serkin disclose this feature. Claim 9, which adds the feature of a routing parameter that accepts a predetermined number of orders at a rate per firm, e.g., market participant to provide fairness in execution of such orders, is neither described nor suggested by the references taken separately or in combination with Official Notice.

#### Claim 10

Claim 10, as amended, is distinct over Samukawa, since the reference fails to disclose or suggest if the odd lot exposure limit has been exceeded ... determining a next available quoting market participant, by retrieving the next available quoting market participant's odd-lot exposure limit and determining whether the next quoting market participant has a remaining odd-lot exposure limit that can satisfy the order.

As should be clear by now, Samukawa taken with Serkin do not teach the claimed "odd-lot exposure limit." Nevertheless, the examiner states that:

*Re Claim 10: Samukawa in view of Serkin discloses the claimed method supra but does not explicitly disclose wherein if the odd lot exposure limit has been exceeded, the method further comprises: determining a next available quoting market participant, by retrieving (sic) the next available quoting market participants odd-lot exposure limit and determining whether the next quoting market participant has a remaining odd-lot exposure limit that can satisfy the order. However this step would have been obvious to a person of ordinary skill in*

the art, as it would prevent orders being filled against a market participant's wishes. Serkin notes that odd lot orders are executed against a market maker in rotation for such orders (paragraph 0073), and therefore an order for an odd lot that would exceed limits established by the participant would not execute, and the process would move through the rotation until an appropriate counterparty can be found.

Applicant reiterates however that the odd lot exposure limit is not found in Samukawa or Serkin. Moreover, execution "in round robin rotation whenever the odd-lot order becomes marketable" as described in Serkin does not address the feature that "... if the odd lot exposure limit has been exceeded, the method further comprises: determining a next available quoting market participant, by retrieving the next available quoting market participant's odd-lot exposure limit and determining whether the next quoting market participant has a remaining odd-lot exposure limit that can satisfy the order," because Serkin does not determine if the market participant had a remaining odd-lot exposure limit that can satisfy the order. Instead, Serkin teaches to execute in round robin rotation.

#### Claim 14

With respect to claim 14, claim 14 limits claim 13 and recites ... decrementing the exposure limit for the market maker, upon execution of the order and placing the market maker at the bottom of a queue.

Applicant contends that one cannot decrement what one does not disclose. Clearly neither Samukawa nor Serkin disclose the exposure limit and thus cannot inherently disclose "decrementing an odd-lot exposure limit for the quoting market participant against, which the received odd-lot order was executed or delivered upon execution or delivery of the received odd-lot order."

#### Claim 16

Claim 16 further limits claim 1 and recites: "determining if an order is a mixed lot order and executing an odd-lot portion of the mixed lot using a separate mechanism from the mechanism that executes a round lot portion of the mixed lot." This feature is not suggested by any combination of the references at least because there is no motivation to combine Samukawa with Serkin for the reasons discussed in claim 10, namely that such a purported combination would destroy the intent, purpose and principle of operation of Samukawa.

Claim 17

Claim 17 recites that the odd-lot portion is executed at the round-lot price against the next quoting market participant in rotation even if the round-lot price is no longer the best price in the market.

Serkin neither describes nor suggests this feature, but instead describes: "[0073]... whenever the odd-lot order becomes marketable, i.e., when the best price in the system moves to the price of the odd-lot limit order. For example, if a member enters a market order for 50 shares into the system, odd lot execution manager 26g will immediately and automatically execute the order at the inside price against the market maker that is first in rotation for execution of such orders, regardless of the market maker's quoted price."

Claim 17 insures that the odd lot portion receives the same price as the round lot portion, even if the market moves whereas, Serkin teaches that the odd lot execution is at the price of the inside market irrespective of the quoted price of the market maker. However, this is a different pricing mechanism than that claimed in claim 17.

Claim 18

With respect to claim 18, claim 18 calls for aggregating a number of odd lot executions for a particular security to produce an aggregate round lot execution comprised of odd-lot executions; and decrementing a Quote/Order size upon execution of the aggregate round lot execution, when the number of odd lots executed equals a round lot. The examiner contends that:

Re Claim 18: Samukawa discloses the claimed method *supra* and further discloses • Aggregating a number of odd lot executions for a particular security to produce an aggregate round lot execution comprised of odd-lot executions (Figure 2, steps S7-S11) and; Samukawa does not explicitly disclose the step of • Decrementing an Quote/Order size upon execution of the aggregate round lot execution, when the number of odd lots executed equals a round lot Serkin discloses decrementing an Quote/Order size upon execution of the aggregate round lot execution, when the number of odd lots executed equals a round lot (paragraph 0056-0058). It would have been obvious to a person of ordinary skill in the art to include the teachings of Serkin to the disclosure of Samukawa to maintain the accuracy of the quote and order system. If the quote/order size is not decreased once a trade is executed, users of the system will see an inaccurate volume of securities on the system since at least a part of that volume is no longer available.

For at least the reasons discussed in claim 10, claim 18 further distinguishes over Samukawa and Serkin because the purported combination would only serve to destroy the intent purpose and function of the primary reference.

As for claims 3-6 and 11-13, and 15, these claims are allowable over Samukawa at least for the reasons discussed in conjunction with their base claims.

Independent claims 19 and 26 and their corresponding dependent claims recite at least a similar feature of claim 1, e.g., determine whether an odd-lot exposure limit has been exceeded for a quoting market participant and route a received odd-lot order for execution or delivery to a the quoting market participant whose odd-lot exposure limit has not been exceeded and which is sufficient to satisfy execution of the order (Claim 19), and are allowable for analogous reasons.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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